

Synthesis of compounds containing a ...

S/020/62/144/001/023/024
B124/B101

ASSOCIATION: Institut tevetykh metallov im. M. I. Kalinina (Institute of Nonferrous Metals imeni M. I. Kalinina). Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti (State Design and Planning Institute of the Rare Metals Industry)

PRESENTED: January 26, 1962, by S. I. Vol'fkovich, Academician

SUBMITTED: February 7, 1962

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Card 3/3

S/081/62/000/023/007/120
B162/B180

AUTHORS: Krestovnikov, A. N., Vigdorovich, V. N.

TITLE: Relationship between the melting points of chemical elements and the shortest spacings in their crystal lattices

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 77, abstract 23B539 (Sb. nauch. tr. In-t tsvetn. met. im. M.I.Kalinina, v, 33, 1960, 421-430)

TEXT: Four principal schemes are noted for the variation in melting point (T) in dependence on the interatomic spacing of the crystal (ISC). For the uni- and bivalent metals, T falls with rising ISC. For elements of the transition group, T rises with ISC. For elements, whose crystals are arranged on the basis of covalence bonds, rising ISC means a fall in T. In elements forming molecular crystal lattices, the bond between the elements of which is due to van der Waals forces, rising ISC means rising T. [Abstracter's note: Complete translation.]

Card 1/1

s/226/63/000/002/006/014
A006/A101

AUTHORS: Vigdorovich, V. N., Nashel'skiy, A. Ya.

TITLE: On a method of measuring microhardness and its dependence upon the composition of brittle materials

PERIODICAL: Poroshkovaya metallurgiya, no. 2, 1963, 43 - 48

TEXT: The investigation was carried out to make more precise the methods of determining micro-brittleness and to establish a correlation between the brittle properties of the material and results of measuring microhardness. From the data obtained optimum measuring conditions must be selected and the results correctly explained. A five-point scale for evaluating micro-brittleness of refractory compounds, employed by Samsonov, Neshpor and Khrenova, was specified for investigating solid solutions of the InAs-InP system (Figure 1). The scale is tabulated. The summary brittle point is determined by formula $Z_p = \sum_{i=0}^{i=5} i \cdot n_i$ where n_i is the relative number of imprints having a corresponding brittle point ($i = 0, 1, \dots, 5$). The summary brittle point is equal to zero ($Z_p = 0$) if one of

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S/226/63/000/002/005/014
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On a method of measuring...

the imprints shows no cracks. The microhardness is a direct linear function of the brittle point. This function is used to obtain the true microhardness value, corresponding to zero brittleness, by graphical extrapolation. The dependence of the brittle properties in the InAs-InP system upon its composition was studied. Micro-brittleness of the InAs system remains almost unchanged at varying load, whereas that of InP varies considerably. The "micro-brittleness - composition" curve shows a maximum whose location is shifted from InP to InAs as the load increases. Microhardness in the InAs-InP system was measured by the method recommended. The data obtained show a maximum on the "concentration-microhardness" dependence curve. Maximum microhardness value in the InAs-InP system at 20 g load, exceeds by 25 kg/mm² the microhardness of a harder InP compound, and is shifted to the side of alloys with a high content of the InP compound. Kurnakov's general laws on the changes in the physico-mechanical properties depending on the chemical composition are confirmed. There are 4 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti (Scientific-Research and Planning Institute of the Rare-Metal Industry)

SUBMITTED: February 19, 1962

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On a method of measuring...

Figure 1. Specified scale for determining the brittle point of solid solutions in the InAs-InP system and other brittle materials (designations given in the table below)

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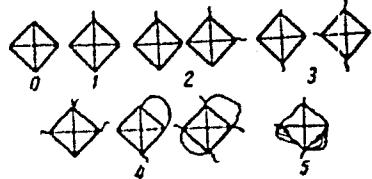


Table. Reference scale for evaluating the micro-brittle point of refractory compounds

Brittle point	Nature of imprint
0	Without visible cracks and splits
1	One small crack
2	One crack that does not coincide with the prolonged diagonal of the imprint. Two cracks in the contiguous corners of the imprint
3	Two cracks in the opposite corners of the imprint
4	Over three cracks; one to two splits at the imprint sides
5	Breakdown of the imprint shape

Card 3/3

VIGDOROVICH, V.N.; MARYCHEV, V.V.

Nonuniformity of the distribution of impurities in the cross-section of a single crystal of aluminum. Fiz. met. i metalloved.
16 no.5:718-722 N '63. (MIRA 17:2)

1. Moskovskiy institut stali i splavov.

ACCESSION NO: AP4009382

S/0126/63/016/006/0891/0894

AUTHORS: Vigdorovich, V. N.; Marychev, V. V.

TITLE: Study of interaction between impurities in growing aluminum monocrystals from melts.

SOURCE: Fizika metallov i metallovedeniye, v. 16, no. 6, 1963, 891-894

TOPIC TAGS: Fe, Cu, Si, Al, aluminum crystal, Al crystal impurity, AV0000
aluminum, aluminum crystal purification, impurity interaction

ABSTRACT: Aluminum monocrystals were grown from liquid Al with different quantities of Cu, Si, and Fe. The work was done in order to study the process of interaction among these impurities and its influence on the removal of these metals from growing crystals. About 150 monocrystals 150-170 mm long and 10-12 mm in diameter were grown in vacuum with aluminum AV0000 serving as the initial material. The crystallization speed was 1 mm/min. The content of impurities and their distribution along the length of the crystal was determined by spectral analysis. It was established that: 1) increase in the summary concentration of any pair of the admixtures resulted in the increase of the third admixture in the Al crystals;

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ACCESSION NO: AP4009382

2) with the decrease in the initial impurity concentration, the effectiveness of their separation during crystallization was decreased and reached a limit at $K \geq 0.1$ for Cu and Fe, and at $K \geq 0.25$ for Si; 3) the impurity removal from the crystals during the directed crystallization followed general rules governed by the proportions of the impurities in Al. "M. Ya. Al'tshuler and Yu. A. Potapov participated in the experiments. A. G. Dvortsan made the spectral analyses." Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 25Feb63

DATE ACQ: 03Feb64

ENCL: 00

SUB CODE: ML

NO REF Sov: 015

OTHER: 001

Card 2/2

VYGODSKIJ, V.N.; VOL'PYAN, A.Ye.

Entropy of separation in purification by zone recrystallization. Zhur.
fiz.khim. 37 no.10:2168-2173 O '63. (MIR 17:2)

1. Nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy
promyshlennosti "Giredmet", Moskva.

VIGDOROVICH, V.N.; MATVLYEVA, L.A., red.

[Bibliography of publications on zone melting; theory, practice, purity control of refined materials and connected problems] Bibliograficheskii ukazatel' literatury po zonnai plavke; teoriia, praktika, kontrol' chistoty ochishchaemykh materialov i smezhnye voprosy. Moskva, Otdel nauchno-tehnicheskoi informatsii. No.1.[Soviet publications] Otechestvennaia literatura. 1963. 38 p. (MIRA 16:12)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektornyy institut redkometallicheskoy promyshlennosti.
(Bibliography--Zone melting)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2

ACCESSION NR: AP4011287 MM/AM

5/0136/64/009/001/0047 0064

ARMED FORCES INFORMATION CENTER LIBRARY

TITLE: Analysis of claims of Soviet missile development

TYPE: Defense

CLASSIFICATION: CONFIDENTIAL

ABSTRACT: Report on Soviet missile development

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2"

ACCESSION NR: AP401287

AND IN VACUUM. THE 100% PURITY OF THE ALUMINUM WAS DETERMINED BY THE
ELECTROLYTIC TITRATION AND THE 99.9% PURITY WAS DETERMINED BY THE
SPECTROGRAPHIC ANALYSIS.

ASSOCIATION: none

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ENCL: 0

CC: [Signature]

MAIL: [Signature]

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ACCESSION NR: AP4019809

S/0279/64/000/001/0078/0084

AUTHOR: Kasatkina, N. A. (Moscow); Vigdorovich, V. N. (Moscow); Nikitina, Z. M. (Moscow); Uvarova, E. S. (Moscow); Konstantinova, L. I. (Moscow)

TITLE: Behavior of impurities during the crystallization refining of indium

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 1, 1964, 78-84

TOPIC TAGS: indium, Indium refining, crystallization refining, impurity elimination, solid phase soluble impurity, solid phase insoluble impurity, zone refining

ABSTRACT: A systematic study was made of the behavior of impurities and the conditions present during their elimination from indium in the process of crystallization refining from molten material. Indium specimens with a known impurity content (Cd, Sn, Pb, Hg, Fe, Ni, Cu, Ag) were subjected to zone refining in a nitrogen stream on equipment with one or two heating zones. Crystals extracted from the smelt in a vacuum furnace, at a residual pressure on the order of 10^{-3} mm Hg, were 100-115 mm long and had a diameter of about 10 mm. The rate of extraction ranged from 0.3 to 2 mm/min. The evaluation of the experimental results employed the author's theoretical classification of impurities present in indium as either easy or difficult to eliminate. The former include most of the impurities present, are characterized by poor solid-solution solubility in In and have distribution co-

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ACCESSION NR: AP4019809

efficient values substantially below 1.0. That coefficient is defined here as the ratio of the solid phase concentration of an impurity to its concentration in the liquid phase. About 10 impurities have such values near 1.0; exhibit significant solid-solution solubility, and are difficult to eliminate. Cu, Ag, and Ni are easy to extract, Sn, Pb, Cd, and Hg are difficult. Sublimation of Cd and Hg, as well as oxidation of Fe and In, were noted as secondary processes favorable to the elimination of impurities during recrystallization. Preliminary removal of Pb and Sn is required. Orig. art. has: 6 graphs, 1 table.

ASSOCIATION: none

SUBMITTED: 09May62

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: ML

NO REF Sov: 007

OTHERS: U08

Card 2/2

ACCESSION NR: AP4029832

8/0279/64/000/002/0063/0068

AUTHOR: Vigdorovich, V. N. (Moscow); Adler, Yu. P. (Moscow); Vol'pyan, A. Ya. (Moscow)

TITLE: On the evaluation of the efficiency of the zonal recrystallization process

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 2, 1964, 63-68

TOPIC TAGS: zonal recrystallization, efficiency, entropy, impurity, entropy function, thermodynamic entropy

ABSTRACT: In this paper the authors suggested that with the aid of the so-called entropy function, an evaluation can be made of the crystallization process efficiency of purification by examining the degree of "disorderliness" or "orderliness" of the impurity distribution along the length of the ingot. Previously, the basic criterion used for evaluating the removal of impurities in a zonal recrystallization was the so-called distribution coefficient. Evaluation of the zonal recrystallization process efficiency, by means of the distribution coefficient, does not permit the entire process to be characterized, even in the relation of the purification course of a certain number of impurities, i.e., the distribution coefficient is superfluously specific. The authors derived formulas to evaluate the efficiency; results were

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ACCESSION NR: AP4029832

compared in tables. The authors suggest an entropy criterion for evaluating the distribution efficiency or the efficiency of purification from impurities in zonal recrystallization and other methods of direct crystallization. The possibility was shown of using this criterion for evaluating the behavior of separate impurities, their combinations, and the entire sum of the control impurities during the actual process by considering their distribution throughout the length of the ingot without apriori construction of a theoretical model of the process. Orig. art. has: 9 formulas, 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 21May62

DATE ACQ: 30Apr64

ENCL: 00

SUB CODE: ML

NO REF Sov: 016

OTHER: 011

Card 2/2

VICDOROVICH, V.N.; NASHEL'SKIY, A.Ya.

Methods of producing semiconductor compounds. Usp.khim. 33 no.9:
1085-1106 S '64. (MIRA 18:4)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut redkometallicheskoy promyshlennosti.

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2

VIGDOROVICH, V.N. (Moskva); VOL'PYAN, A.Ye. (Moskva)

Distribution of impurities during zone recrystallization of varying
cross-section ingots. Izv. AN SSSR. Met. i gor. delo no.5:66-78 S-0
'64. (MIRA 18:1)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2"

ACCESSION NR: AR4048223

SOURCE: Ref. zh. Metallurgiya, Abs. 9G11B

AUTHOR: Vigdorovich, V. N.; Marychey, V. V.

AUTHOR: Vigdorovich, V. N.; May, V. G.
TITLE: The behavior of impurities in the process of zone melting of tungsten and molybdenum. In: Tverdykh splavov, no. 5.

TITLE: tungsten and molybdenum
CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdykh splavov, no. 5,
1964, 235-244

TOPIC TAGS: impurity, zone melting, tungsten, molybdenum, high purity metal

Card 1/2

L 16129-65

ACCESSION NR: AR4048223

of an experimental study of the behavior of the impurities confirms
the classification drawn up of the impurities in W and Mo, 22
literature titles.

SUB CODE: MM

ENCL: 00

Card 2/2

L 8645-65 . ENTIRE FILE 4M (B) 18-4 NMW JD

ACCESSION NR# AP404415A

S/0126/64 018/002/0303/0106 G

AUTHOR: Vygordovitch, V. N.; Chernoborodin, I. P.; Maryshev, I. V.

TOPIC TAGS: zone melting, zone refining, aluminum zone melting, aluminum purification, aluminum zone refining

ABSTRACT: The effect of phosphorus, fluorine, and iodine on the behavior of impurities (iron, silicon, copper, manganese) in zone refining of aluminum was investigated. 10000 aluminum was melted in an electric furnace and alloyed with approximately 0.001 wt. phos- phorus, fluorine, or iodine. The zone refining was done in a vacuum of $\sim 1.10^{-3}$ mm Hg with the molten zone moving at a rate of 1.6 mm/min. After 10 passes the material was subjected to spectral analysis, which showed that phosphorus and iodine had a de-
toxicifying effect, while fluorine had a negative effect in the case of

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ACCESSION NR: AP4044164

copper and manganese. Iodine has a positive effect on magnesium and
a negative effect on iron, zinc and calcium. The effect of fluorine
is positive in elimination of iron and copper but negative in
elimination of zinc and calcium.

ABSTRACTED FROM THE REPORT OF THE NATIONAL INSTITUTE OF RADIATION PHYSICS

AUTHOR: Marina, L. I. (Moscow); Nasheil'skiy, A. Ya. (Moscow);
Vigdorovich, V. N. (Moscow); Bakanova, D. D. (Moscow)

TITLE: Investigation of alloys of the gel-forming polymer system

SOURCE: Zhurnal fizicheskikh nauk, 1980, v. 100, p. 103

TOPIC WORDS: polymer systems

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phosphate in ten percent aqueous solution. V

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DATE: 10-10-86 APPROVAL NUMBER: 10000000000000000000

SEARCHED: INDEXED: SERIALIZED: FILED:

TOPIC TAGS: ingot cross section, recirculation technology, non-recrystallization, cast bismuth, recirculation cascade, metal purification.

ABSTRACT: The authors have conducted an experimental study of the casting of ingots of variable cross section. The results are presented in this paper.

INTRODUCTION: Ingot casting is a common method of producing metal ingots. The casting process involves the pouring of molten metal into a mold and allowing it to solidify.

The casting process can be used to produce ingots of different sizes and shapes. The size and shape of the ingot depends on the size and shape of the mold.

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L-45, S-12-18
ACCESSION NR: AP10069268

1. Description: Photocopy of two maps and one diagram. "G. N. Jutrois and
V. P. Mal'tseva captured by U.S. forces in 1962." One map shows
"Map of the area around the village of Krasnaya Gora, 1962".

ASSOCIATION: None

SUBMITTED: 21Mar64

NO REF Sov: 001

ENCL: 00

SUB CODE: PM

OTHER: 001

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"APPROVED FOR RELEASE: 09/01/2001

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Card 1/5

APPROVED FOR RELEASE: 09/01/2001

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L49426-65

CONFIDENTIAL - SECURITY INFORMATION

of an unfavorable re-

E. Ye. Konovalov, Sh. I. Peyzulayev, and co-workers applied zone refining to separate bismuth from tin in the presence of lead and zinc with a yield of 95%. The method can be used to purify lead with sensitivity in the $10^{-4} - 10^{-5}$ range. This technique

Card 2/5

1. 451-4

ACCESSION NR: AP5012494

Applied the method of zone melting to separate the elements of the lanthanide group.

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A. N. Kirgintsev and A. S. Trel'jakov formulated conditions for separating the elements by zone melting with an auxiliary substance.

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Orig. art. has 14 formulas.

ASSOCIATION: none

FORM: 00

SUB CODE: GC, WM

SUBMITTED: 00

OTHER: 021

ATD PRESS: 4003-F

NC REF Sov: 024

Card 5/5

Z-06485-67 EWT(m)/EMP(t)/ETI LJP(r) KW/JD/JG
ACC NR: AP6028297 (N) SOURCE CODE: UR/0363/66/002/006/1001/1010

AUTHOR: Vigdorovich, V. N.; Zakharova, N. Ya.

ORG: Giredmet

TITLE: Dissolution of arsenic vapor in a gallium-arsenic melt

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 6, 1966, 1001-1010

TOPIC TAGS: gallium, arsenic gallium arsenide, metal diffusion

ABSTRACT: The kinetics and mechanism of the absorption of arsenic vapor by a gallium solution were studied in nonstoichiometric melts. It is shown that the process studied lies in the diffusion region and is determined by reactive diffusion. The physicochemical relationships underlying the process were determined by using equations of formal chemical kinetics and an analytical criterion. This led to the conclusion that the rate of the process is determined by the diffusion, not by the chemical reaction. The rate constants of the reaction were determined. The equation for the temperature dependence of the rate constant is $\log k = -\frac{4340}{T} + 0.643$ in the 800-1000°C range. The activation energy of the chemical reaction is $E = 19.86 \text{ kcal/mole}$. A study of the thickness of the gallium layer vs. the kinetics of formation of gallium arsenide showed that the thicker this layer, the less gallium penetrates into it. The maximum solubility of arsenic in gallium was found to be 5.5, 8.7 and 14.8 wt. % at

Cord 1/2

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ACC NR: AP6028297

800, 900 and 1000°C respectively. Gallium arsenide formed on the melt surface by the chemical reaction hinders the latter, and further formation of gallium arsenide is due to diffusion. The rate of formation of gallium arsenide is determined by the reactive diffusion of gallium through solid gallium arsenide to the surface of contact with arsenic. The diffusion coefficients were found to be 2.3×10^{-5} , 1.2×10^{-3} and $1.9 \times 10^{-2} \text{ cm}^2/\text{sec}$ for 800, 900 and 1000°C. The following equation was derived for the temperature dependence of the diffusion coefficient: $D = 6.04 \times 10^4 e^{-39740/RT}$. The activation energy of the diffusion $E = -3.97 \text{ kcal/mole}$. Orig. art. has: 8 figures, 8 tables and 10 formulas.

SUB CODE: 07,20/ SUBM DATE: 06Aug65/ ORIG REF: 008/ OTH REF: 007

Card 2/2 MLE

L 07380-67 IMP(L)/IMP(L)/IMP
ACC NR: AP6027753 (N) JU

SOURCE CODE: UR/0370/66/000/004/0163/0166

AUTHOR: Vigdorovich, V. N. (Moscow); Fershter, L. M. (Moscow)

18

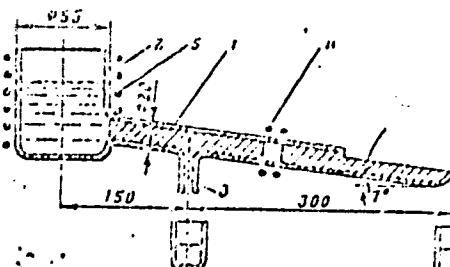
ORG: None

TITLE: Continuous zone-transport recrystallization in single-stage installations

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1966, 163-166

TOPIC TAGS: zone refining, tin, metal purification

ABSTRACT: Data are given from experiments of tin purification by the zone-transport method on the single-stage unit shown in the figure. Quartz tube 1 with a diameter of 20 mm has a longitudinal cutout on one end, is connected to quartz vessel 2 on the other end and has a tubular branch 3. The melting zone (70-80 mm long) is produced by electric resistance heater 4 which moves at a rate of 5 cm/hr (from right to left). A second resistance heater 5 is used for melting the initial material and maintaining it in the molten state ($250-265^{\circ}\text{C}$). Tables are given showing the results of spectral analysis for determination of copper, silver and lead



UDC: 669.2/8.43

Card 1/2

L 07380-67
ACC NR: AP6027753

impurities for fifteen passes through this single-stage equipment. The repeatability of the results, the homogeneity of the material and the efficiency factors achieved are encouraging and indicate that further work should be done on perfecting this type of equipment for continuous zone refining. Orig. art. has: 3 figures, 3 tables.

SUB CODE: 11/ SUBM DATE: 08Jan65/ ORIG REF: 007/ OTH REF: 005
15/

Card 212 copy

ACC NR: AP7002862

SOURCE CODE: UR/0149/66/000/006/C079/0085

AUTHORS: Kazakov, A. P.; Belyayev, A. I.; Vigdorovich, V. N.

ORG: Moscow Institute for Steel and Alloys, Department of Manufacture of Pure Metals and Semiconductor Materials (Moskovskiy institut stali i splavov. Kafedra proizvodstva chistykh metallov i poluprovodnikovykh materialov)

TITLE: Investigation of conditions for zone recrystallization of magnesium

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1966, 79-85

TOPIC TAGS: magnesium, copper, aluminum, silicon, metal recrystallization, metal purification, metal zone refining

ABSTRACT: The conditions for zone recrystallization of magnesium were studied, supplementing the results of A. P. Kazakov, A. I. Belyayev, and V. N. Vigdorovich (Izv. AN SSSR, Metally, No. 4, 92, 1965). The experimental procedure followed is described by V. Dzh. Pfann (Zonnaya plavka. Metallurgizdat, 1960). The dependence of the effective distribution coefficients of Al, Cu, and Si impurities in zone-refined Mg was studied as a function of the recrystallization rate. The experimental results are presented in graphs and tables (see Fig. 1). The following relationship between the effective distribution coefficient K and the crystallization rate f was observed

$$\lg \left(\frac{1}{K_{Al} - 1} \right) = 0.61f + 0.363,$$

Card 1/2

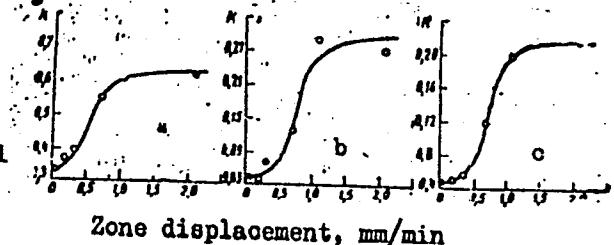
UDC: 669.721

ACC NR: AP7002862

$$\lg \left(\frac{1}{x_{\text{Si}} - 1} \right) = 0.977 f + 1.457,$$

$$\lg \left(\frac{1}{x_{\text{Cu}} - 1} \right) = 0.801 f + 1.403..$$

Fig. 1. Dependence of effective distribution coefficients of Al (a), Si (b), and Cu (c) impurities in Mg on the zone displacement rate. The three points shown in the graph correspond to the experimental data of A. S. Yue and I. B. Clark (Trans AIME, v. 211, No. 6, 881, 1958)



The concentration dependence of the effective distribution coefficients of Al, Cu, and Si impurities was studied in the concentration range of 10^{-1} to $10^{-3}\%$, and the experimental results are tabulated. The rate of corrosion of zone-refined Mg was compared with that of distilled Mg. It was found that zone-refined Mg was identical in its corrosion behavior, with respect to HCl and KCl solutions, with that of fractionally distilled Mg. The experimental results are shown graphically. On the basis of the experimental results and literature data, a scheme is proposed for the classification of the effect of impurities on the purity of zone-refined Mg. Orig. art. has: 2 tables, 6 graphs, and 5 equations.

Card 2/2 SUB CODE: 11/ SUBM DATE: 080ct65/ ORIG REF: 005/ OTH REF: 002

VIGDOROVICH, V.N.

Microhardness measurement as a method of material testing; review.
Zav. lab. 31 no.8:993-1001 '65. (MIRA 18:9)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2

VIGDOROVICH, V.N. (Moskva); CHERNOMORDIN, I.F. (Moskva); MARYCHEV, V.V. (Moskva)

Proceeding in stages for zone recrystallization. Izv. AN SSSR.
Met. i gor. delo no.6:89-96 N-D '64. (MIRA 18:3)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2"

VIGDOROVICH, V.N.; CHERNOMORIN, I.F.; MARYCHEV, V.V.

Effect of additions of phosphorus, fluor, and iodine on aluminum
refining during crystallization. Fiz. met. i metalloved. 18
no.2:303-306 Ag '64. (MIRA 18:8)

I. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut
redkometallicheskoy promyshlennosti, Moskva.

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2

SOURCE: Upeka Exhibit, U.S. v. CIA, et al., 1992

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2

62711-65

27 SEPTEMBER 1965

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2"

VIGDOROVICH, V.N.; MARYCHEV, V.V.

Growing of WO_3 and MoO_3 crystals from cryolite-oxide melts.
Dokl. AN SSSR 159 no. 2 416-419 N '64. (MIRA 17:12)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut
redkometallicheskoy promyshlennosti. Predstavлено akademikom
I.V. Tananayevym.

L 01797-66 ENT(m)/ENT(t)/ENT(b) IJP(c) JD

ACCESSION NR: AP5021496

UR/0370/65/000/004/0092/0096

669.2/8.43

AUTHOR: Kazakov, A. P. (Moscow); Belyayev, A. I. (Moscow); Vigdorovich, V. N. (Moscow) 4455 25B
4455

TITLE: Purification of magnesium by zone refining 10

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1965, 92-96

TOPIC TAGS: magnesium, metal zone refining, metal purification

ABSTRACT: Highly pure magnesium is needed more and more in atomic power engineering, semiconductor technology and other branches of science and technology. The authors examine the behavior of impurities in magnesium during purification by the zone refining method. The distribution factors for impurities in magnesium are briefly analyzed theoretically. The distribution of aluminum, copper, silicon and iron impurities in magnesium is studied experimentally. The zone refining was done at rates of 0.22, 0.35, 0.70 and 1.05 mm/min. The experimental setup is shown in fig. 1 of the Enclosure. The effective distribution factor of the impurities was studied as a function of the rate of motion of the melted zone (*f*) after various

Card 1/4

L 01797-66

ACCESSION NR: AP5021496

numbers of passes (n). The results of this study are given in table 1 of the En-closure. Orig. art. has: 5 figures, 2 tables.

ASSOCIATION: none

SUBMITTED: 01Dec64

ENCL: 02

SUB CODE: MM

NO REF SOV: 002

OTHER: 010

Card 2/4

L 01797-66

ACCESSION NR: AP5021496

ENCLOSURE: 01

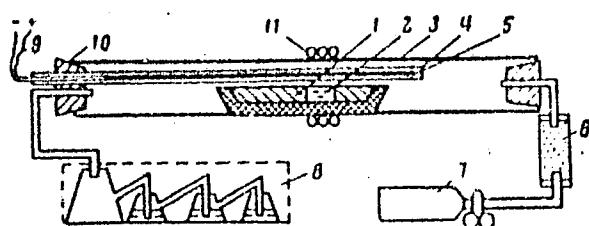


Fig. 1. Diagram of the experimental setup for zone refining of magnesium:
1--ingot; 2--melted zone; 3--quartz tube; 4--protective cover for the thermocouple;
5--thermocouple; 6--drier with silicagel; 7--tank with sulfur dioxide; 8--filter
system; 9--thermocouple; 10--stopper; 11--heater

Card 3/4

L 01797-66

ACCESSION NR: AP5021496

ENCLOSURE: 02 O

TABLE 1

Effect of the rate of motion of the melted zone on the distribution of Al, Si and Cu impurities in magnesium after zone refining with various numbers of passes

<i>f</i> , mm/min	<i>n</i>	Impurity content $\times 10^4$ in various sections along the magnesium sample in mm.														
		Al					Si					Cu				
		10	45	80	115	150	10	45	80	115	150	10	45	80	115	150
0.22	2	25	25	30	35	51	<8	<8	<8	<8	10	2.0	4.8	6	7	110
	3	25	22	22	27	58	<8	<8	<8	<8	9	<0.8	1.5	1.5	2.5	0.97
0.35	2	20	30	30	34	46	<8	<8	<8	24	100	2	5	0	21	132
	3	25	23	25	28	48	<8	<8	<8	<8	84	<0.8	1.0	2	9	170
0.70	2	36	41	38	38	45	<8	10	19	22	64	15	35	33	50	110
	3	32	34	35	38	53	<8	<8	9	14	92	0	10	10	25	110
	4	30	34	31	38	60	<8	<8	8	11	87	1.8	2	4	9.1	150
1.05	3	37	34	37	40	46	10	21	30	39	120	5	29	32	71	110
	4	33	34	34	37	45	8	10	19	28	145	2	8	19	60	170

Card 4/4

L 1650-66 EWT(m)/EMP(t)/EMP(b) JD

ACCESSION NR: AP5021424

UR/0076/65/039/008/2043/2046

541.11:542.65

AUTHOR: Vigdorovich, V. N.; Marychev, V. V.

TITLE: Certain special cases of zone recrystallization

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 8, 1965, 2043-2046

TOPIC TAGS: zone refining, zone recrystallization

ABSTRACT: The object of the study was to examine the distribution of impurities during zone recrystallization, when, because of the difference in the chemical nature of the molten zone, its initial content of impurities may differ from the initial content of impurities in the substance being refined. Zone recrystallization with a third component is considered. The behavior of the impurities is estimated by calculation for various distribution coefficients and relative impurity concentrations in the initial zone and initial charge. It is shown that during zone recrystallization, impurities having a distribution coefficient greater than unity can be expelled into the end portion of the charge as a result of the "extracting" effect of the molten zone. Examples of calculation of the effective distribution

Card 1/2

L 1650-66

ACCESSION NR: AP5021424

coefficients, account being taken of these characteristics, are illustrated. Orig.
art. has: 4 figures and 8 formulas.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut
redkometallicheskoy promyshlennosti (State Scientific Research and Planning Insti-
tute of the Rare Metal Industry)

SUBMITTED: 02Jun64

ENCL: 00

SUB CODE: GC

NO REF SOV: 003

OTHER: 000

Card 2/2 OP

VICDOROVICH, YU. B.

PA 24T22

Aug 1947

USSR/Electronics
Heating, Electro
Vacuum Tubes - Currents

"Choice of Feedback Circuits in Vacuum Tube Oscillators for Dielectric Heating," Yu. B. Vigdorovich, Enggr., Factory "Electrik" imeni A. K. Skorochodov, 31 pp

"Vestnik Elektro-Promyshlennosti" No 8

Discusses the operation of a vacuum tube oscillator. Has many mathematical formulae for calculating the anode current in the oscillator tube, the effective parameters of the circuit, etc. The theoretical data obtained was used in the manufacture of a

24T22

AUG 1947
USSR/Electronics (Contd.)
powerful short-wave vacuum tube oscillator for dielectric heating and was found to operate completely satisfactorily.

24T22

VIGDOROVICH, G.D.

BOKIY, G.B., professor, redaktor; VIGDOROVICH, G.D. [translator]; STRUCH-KOV, Yu.T., redaktor; MEL'NIKOVA, Ye., tekhnicheskij redaktor.

[New studies on crystallography and crystallochemistry] Novye issledovaniia po kristallografi i kristallokhimii. No. 3, 4. [The structure of crystals] Kristallicheskie struktury. Moskva, Izd-vo inostrannoi lit-ry. 1951, 166 p., 310 p. [Microfilm] (MLRA 7:10)
(Crystallography) (Crystallochemistry)

VIGDOROVICH, G. D.

Apr 53

USSR/Physics - Crystallography

"Review of 'New Investigations in Crystallography and Crystallochemistry,'"
(V. A. Frank-Kamenetskii, reviewer)

Usp Fiz Nauk, Vol 49, No 4, pp 628-630

Reviewed book presents abridged translations of foreign articles processed by G. D. Vigdorovich, A. S. Anishkin, B. V. Neurav, T. I. Khototsyanova, V. M. Koshin, N. D. Katsenelenbaum, Yu. G. Zegalskiy, and N. A. Pobedimskaya, with preface by Professor G. B. Bol'sya the editor.

26792

VIGDOROVICH, G.D.

Synthetic rubber of low temperature polymerization; bibliographic survey, 1950-1953. Khim.prom. no.1:57-62 Ja-F '54. (MIRA 7:4)
(Rubber, Synthetic)

VIGDOROVICH, G. D.

FD 205

USSR/Chemistry - Elastomers

Card 1/1

Author : Vigdorovich, G. D.

Title : Foreign Developments: Oil rubbers

Periodical : Khim. prom. 4, pp 58-60 (250-254), June 1954

Abstract : Reviews in considerable detail the subject of oil rubbers on the basis of foreign publications. 22 references, all foreign.

VIGDOROVICH, G.D.

Oil-extended rubber. Khim.prom. no.4:250-254 Je '54. (MLRA 7:8)
(Rubber, Synthetic)

Translation D 222911 - 28 Apr 55

VE GDRKOVICH, Ljub.

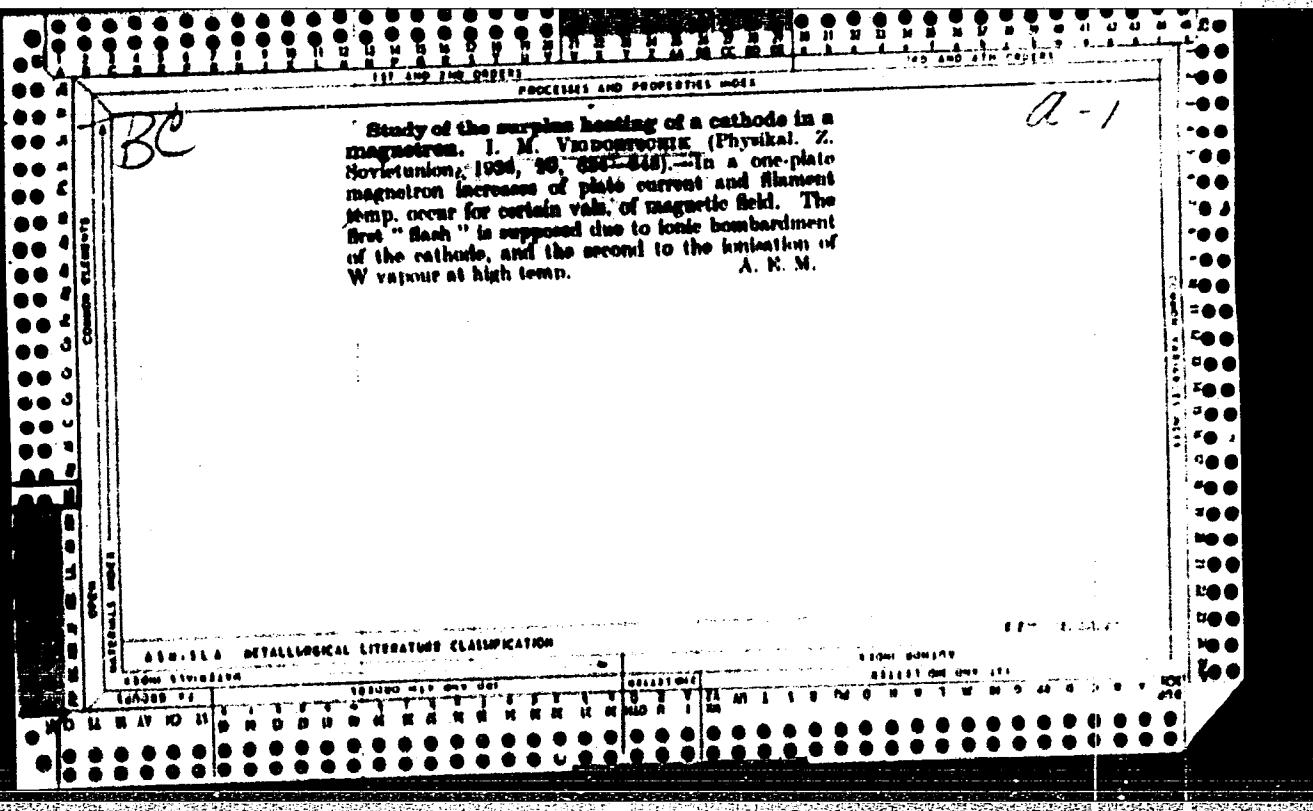
DONSKOY, Aleksandr Vasil'yevich; RAMM, Grigoriy Samoylevich; VIGDOROVICH,
Yuriy Borisevich; MONDRUS, D.B., redakter; MIKHAYLOVA, Ye.M.,
tekhnicheskiy redakter.

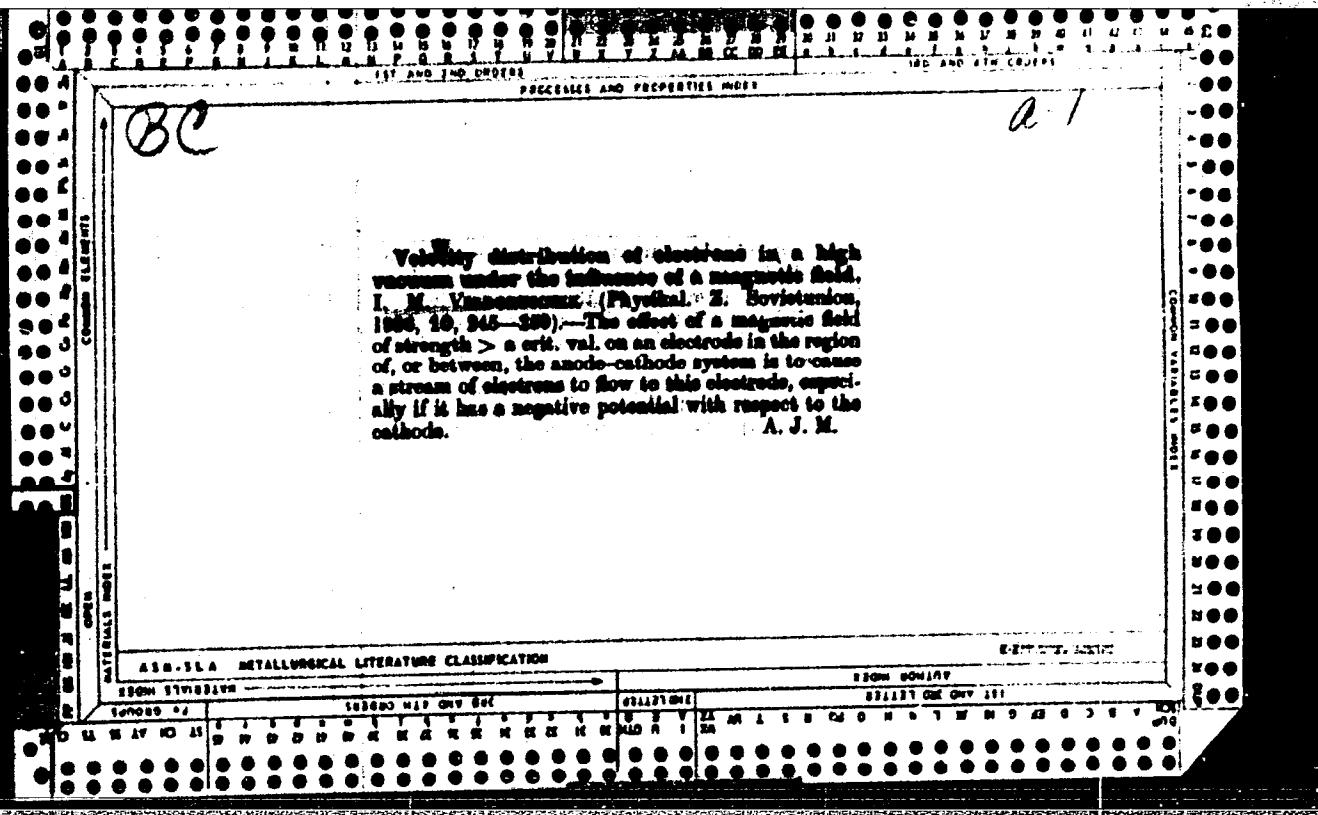
[High frequency electrethermic apparatus with electron-tube oscillators]
Vysokochastotnye elektrotermicheskie ustavovki s lampovymi generatorami.
Moskva, Gos.energ.izd-vo, 1957. 307 p. (MLRA 10:4)
(Induction heating) (Oscillators, Electron-tube)
(Dielectric heating)

VIGDOROVICH, Yu.B., inzhener.

Selecting a feed back scheme in tube generators for dielectric heating.
Vest.elektrprom. 18 no.8:18-21 Ag '47. (MLRA 6:12)

1. Zavod "Elektrik" im. A.K.Skorokhodova.
(Electric circuits)





VIGEL', E.S.; LIBLIK, M.G.

An unknown portrait of N.I.Pirogov. Khirurgiia 32 no.11:79-80 N '56.
(MLRA 10:3)

1. Iz fundamental'noy biblioteki Tartuskogo gosudarstvennogo
universiteta.

(PIROGOV, NIKOLAI IVANOVICH, 1810-1881)

VIGEL', Z.S.

What N.I.Pirogov read. Vest.khir. 77 no.11:37-39 N '56. (MLRA 10:1)

1. Iz biblioteki Tartuskogo gosudarstvennogo universiteta.
(PIROGOV, NIKOLAI IVANOVICH, 1810-1881)

GINZBURG, V.I.; VIGER, G.I.

Amperometric determination of small quantities of thiourea and
its use for the amperometric determination of silver. Zhur.anal.-
khim. 17 no.5:631-635 Ag '62. (MIRA 16:3)

1. All-Union Scientific Research Institute of Printing Industry,
Moscow.
(Urea) (Silver--Analysis) (Conductometric analysis)

VIGH, Albert

The ten-year-old Research Institute of the Sugar Industry.
Cukor 12 no.7:169-170 Jl '59.

1. "Cukoripar" szerkesztoje.

VIGH, Albert

The 1st national conference of sugar boilers. Cukor 13
no.8:217 Ag '60.

1. Fomernok, es "Cukoripar" foszerkesztoje.

VIGH, Albert

Technical development of the sugar industry. Cukor 13 no.6:168-173
Je '60.

1. Fomernok, es "Cukoripar" foszerkesztoje.

VIGH, Albert, dr.

Long-range development of the sugar industry. II. Cukor 15 no.10:
289-292 O '62.

1. Cukoripari Igazgatosag, es "Cukoripar" foszerkesztoje.

VIGH, Albert

Foreign periodical article reviews. Cukor 12 no.9:263-3 of
cover S '59.

VIGH, Albert

"Device for the qualitative determination of white granulated sugar" by W.H.Parker, G.M.Bond. Reviewed by Albert Vigh.
Cukor 11 no.9:248 8'58

"Theory and practice of oil-fired limekiln" by H. Eigen. Reviewed by Albert Vigh. Ibid.: 4 of cover

VIGH, Albert, fomernok

Pectins and their role during the sugar manufacture. Pt. 2.
Cukor 14 no. 2:33-37 F '61.

1. "Cukoripar" foszerkesztoje.

VIGH, Albert, fovegyesz

Sugar juice clarification. Pt.4. Cukor 11 no.7:180-182
J1'58.

1. Ercsi Cukorgyar.

VIGH, Albert, fovegyesz

Sugar juice clarification. Pt.2. Cukor 11 no.4:94-97 Ap'58

1. Ercsi Cukorgyar.

VIGH, Albert

Floating systems and their mechanization. Cukor 14 no. 1:
24 Ja '61.

1. "Cukoripar" foszerkeztoje.

DECSSI, F.; KOLLAR, J.; VIGH, Albert; WERTAN, Pal.

The Brno international fair of the machine industry. Cukor
13 no.1:7-13 Ja '60.

1. "Cukoripar" foszerkesztoje (for Vigh). 2. "Cukoripar"
szerkesztoje (for Wertan).

VIGH, Albert; WERTAN, Pal

Exchange of experiences in Slovakia. Cukor 13 no.2:42-47 F '60.

1. "Cukoripar" foszerkesztoje (for Vigh). 2. "Cukoripar"
szerkesztoje (for Wertan).

VIGH, Albert

Foreign periodical review. Cukor 13 no.10:292-3 of cover 0 '60.

1. "Cukoripar" fcszerkesztoje.

VIGH, Albert, dr.

Beginnings of the long-range planning in the sugar industry. I.
(To be contd.) Cukor 15 no.9:257-261 S '62.

1. Cukoripari Igazgatosag,es "Cukoripar" foszerkesztoje.

VIGH, ALBERT

HUNGARY/Chemical Technology, Chemical Products and Their
Application, Part 3. - Carbohydrates and Their
Treatment.

H-26

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 34095.

Author : Albert Vigh.

Inst : Not given.

Title : Continuous Filtration of 1st Saturation Juice.

Orig Pub: Cukoripar, 1957, 10, No 9-10, 179-181.

Abstract: The results of tests at the Mezehedesh factory of the installation for continuous filtration of 1st saturation juice (consisting of 1 settling tank - mud thickener and 1 vacuum filter) are presented. The installation yielded good results, especially in the case of hot progressive predeccation with the return of a

Card : 1/2

HUNGARY/Chemical Technology, Chemical Products and Their
Application, Part 3. - Carbohydrates and Their
Treatment.

H-26

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 34095.

part of the non-filtered 1st saturation juice to the
raw juice. The installation worked without stops
even when processing damaged beets.

Card : 2/2

VIGH, ALBERT

Hungary/Chemical Technology - Chemical Products and Their Application. Carbohydrates and Refinement, I-26

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63497

Author: Vigh, Albert

Institution: None

Title: Use of Coagulants and Drum Vacuum Filters in Soviet Sugar Industry

Original

Periodical: Ulepítok es vakuumdobszurok alkalmazása a szovjet cukoriparban.
Cukoripar, 1954, 7, No 9, 173-177; Hungarian

Abstract: None

Card 1/1

Hungary/Chemical Technology - Chemical Products and Their Application. Carbohydrates and Refinement, I-26

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63488

Author: Vigh, Albert

Institution: None

Title: Crystalline Sugar Quality Control Methods in Soviet Sugar Industry

Original
Periodical: A kristalycukor minosegenek ellenorzese a szovjet cukorgyarakban.
Cukoripar, 1955, 8, No 6, 111-112; Hungarian

Abstract: None

Card 1/1

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859720007-2"

2

SA

Analysis of Jaggery and cleaned with water according to Bhagat,
A. Vith (Cukorijer, 1961, & 141-142; Sug. Ind. Abstr., 1961,
Vol. 13). Sampling of pieces made in the frames is unsatisfactory.
Uniform representative samples can be taken from the mixture of

lumps and hot water in the effluent from the washing-out of the
process. Calculations are given for obtaining the correct reference
basis for the sugar content.

P. S. AURV;

VIGH, Albert, dr.

Appraisal of the 1961-62 campaign. (To be contd.) Cukoripar
15 no.5:135-138 My '62.

1. Cukoripari Igazgatosag, es "Cukoripar" fosezerkesztoje.

VIGH, Albert

Technical development of the sugar industry by its own strength.
Cukor 13 no.4:99-105 Ap '60.

1. Fomernok, "Cukoripar" foszerkesztoje.

VIGH, Albert

Import machines of the German Democratic Republic. (Continuation).
Cukor 13 no.1:17-21 Ja '60.

1. Fomernok, Cukoripari Igazgatosag, es "Cukoripar" foszerkesztoje.

VIGH, Albert

"New development in sugar beet improvement" by S. Ellerton.
A periodical article review by Albert Vigh. Cukor 12 no.5:130-131
My '59.

1. "Cukoripar" felelos szerkesztoje.

VIGH, A.

The research Institute for Sugar Industry is ten years old. p.169

CUKORIPAR. (Mezogazdasagi es Elelmiszeripari Tudomanyos Egyesulet. Cukoripari Szakosztaly) Budapest, Hungary
Vol. 12, no.7, July 1959

Monthly List of East European Accessions (EEAI) I.C., Vol.8, no.12, Dec. 1959
Uncl.

VIGH, Arpad

Faithfully to traditions. Munka 13 no.10:3-4 O '63.

1. Banyasz Szakszervezet titkara.

HUNGARY/Chemical Technology - Carbohydrates and Their Processing.

H-26

Abs Jour : Ref Zhur - Khimiya, No 24, 1958, 83204

Author : Vigh, A.

Inst : -

Title : The Infection of Ionite Columns.

Orig Pub : Cukoripar, 1958, 11, No 1, 11-12.

Abstract : An investigation in June, 1957 on the slime present in a cation exchange column of the Erch sugar plant, done by the hypochlorite method, confirmed the bacterial nature of the slime. A complete sterilization of the column was accomplished by a three hour treatment with a 0.25% solution of formaldehyde.

Card 1/1

HUNGARY/Chemical Technology. Chemical Products and Their Application. Carbohydrates and Their Processing.

H-26

Abs Jour: Ref Zhur-Khim., No 2, 1959, 6201.

Author : Vigh, Albert.

Inst :

Title : Purification of Juice.

Orig Pub: Cukoripar, 1958, 11, No 3, 69-73.

Abstract: Popular article concerning cold and hot defecation, as well as preliminary defecation. - G. Yudkovich.

Card : 1/1

HUNGARY / Chemical Technology, Chemical Products and
Their Application, Part 3. - Carbohydrates
and Their Treatment. H

Abs Jour: Ref Zhurnal Khimiya, No 18, 1958, 62492.

Abstract: mud thickener possible and secures the level stability in the trough. The 2nd saturation juice is treated in a hydrocyclone instead of being filtered. The temperature of the juice in the mud thickener is 80 to 90°, but never above 90°. The vacuum in the drum filter is about 450 mm, the juice temperature in the filter trough is 80 to 85°, the filter linen is regenerated every 10 to 15 days, the thickness of the deposit on the filter is 8 to 12 mm, the juice density after the mud thickener is 38 to 40° Br, the air pressure for separating the deposit layer is 0.5 to 1 atm (gauge). The wire for fixing the filter linen is 1.5 to 2 mm in

Card 2/3

HUNGARY / Chemical Technology, Chemical Products and
Their Application, Part 3. - Carbohydrates
and Their Treatment. H

Abs Jour: Ref Zhurnal Khimiya, No 18, 1958, 62492.

Abstract: dia. and it is wound up in a coil with a
pitch of 40 to 50 mm. See part I in
RZhKhim, 1957, 56228.

Card 3/3

5

HUNGARY/Chemical Technology - Chemical Products and Their
Applications - Carbohydrates and Their Processing.

H.

Abs Jour : Ref Zhur - Khimiya, No 11, 1958, 37721

Author : Vigh, A.

Inst : -

Title : Continuous Purification of Liquors in the Sugar Plant
Ercsi.

Orig Pub : Cukoripar, 1957, 10, No 9-10, 176-179

Abstract : The method consists of the following continuous processes: (1) preliminary, progressive clarification, for which the liquor is introduced into the clarifier, through a proportioning apparatus (ring) linked with a rotary milk-of-lime feeder. (2) Main clarification, for which milk-of-lime is introduced through a special, continuously operated, weighing device, whose functioning is correlated with the quantity of inflowing liquor.

Card 1/2

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HUNGARY/Chemical Technology - Chemical Products and Their
Applications - Carbohydrates and Their Processing. H.

Abs Jour : Ref Zhur - Khimiya, No 11, 1958, 37721

(3) Saturation conducted in a counterflow, saturating tank, commonly used in Soviet industry. For the purification of liquors prepared from unspoiled sugar beets, cold, preliminary and basic clarifications are employed. Manufacturing characteristics of continuously operated processes for liquor purification have been found completely satisfactory.

Card 2/2

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VIGH, B.; AROS, B.; WENGER, T.; TORK, I.; ZARAND, P.

Ependymosecretion (ependymal neurosecretion). III. Gomori-positive material in the choroid plexus and in the membranous labyrinth in different vertebrates. Acta biol. acad. sci. hung. 13 no.4:347-360 '63.

1. Department of Histology and Embryology, Medical University, Budapest (Head: I. Toro).

(CHOROID PLEXUS) (EPENDYMA) (HISTOLOGY)
(LABYRINTHINE FLUIDS) (PHYSIOLOGY)

AROS, Bela (Budapest, IX.Tuzolto u. 58, Hungary.); YIGH, Bela
(Budapest, IX. Tuzolto u.58, Hungary.)

Neurosecretory changes in the nervous system of *Lumbricus*
rubellus Hoffm. provoked by various experimental influences.

Acta biol Hung 12 no.2:87-98 '61.
1. Institute of Histology and Embriology, Medical University,
Budapest (Head: I. Toro).

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Neurosecretory activity of the central and peripheral nervous
system in the earthworm. Acta biol Hung 12 no.3:169-186
'61.

1. Institute of Histology and Embryology, Medical University,
Budapest (Head:I.Toro).

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AROS, Bela (Budapest, IX Tuzolto u. 58, Hungary); VIGH, Bela (Budapest,
IX Tuzolto u. 58, Hungary)

Neurosecretory changes in the nervous system of *Lumbricus rebellus*
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12 no.2:87, 98 '61.

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Budapest.